REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims comply with 35 U.S.C. § 112, comply with 35 U.S.C. § 101 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, <u>the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits</u>.**

The applicants will now address each of the issues raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 101

Claims 1, 3 and 5-26 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The 101 rejections have been traversed by the amendments made to the claims. The amendments are supported, for example, by Figures 3 and 12, and the associated description.

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Specification Objections

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner contends that the USPTO was not able to find support for the claim language of "controlling the serving of an advertisement to the user using the determined user profile information".

The applicants respectfully disagree and request that the Examiner reconsider and withdraw this ground of rejection in view of the applicants' remark in the following section.

Rejections under 35 U.S.C. § 112

Claims 1, 7, 14, 33, 39 and 46 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Examiner (1) notes that claims 1, 7, 14, 33, 39 and 46 recite "controlling the serving of an advertisement to the user using the determined user profile information", and (2) alleges that this feature is not described in the specification in such a way as to enable one skilled in the art to make and use the invention because he was unable to find support for such language in the specification. (See Paper No. 20090330, page 4.) The remaining claims were rejected as depending from these rejected claims.

The applicants respectfully submit that those claims are enabled, and specifically that one skilled in the art

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would be able to control the serving of an advertisement
to the user using the determined user profile
information. In this regard, the MPEP states, in
pertinent part:

> Any analysis of whether a
> particular claim is supported by
> the disclosure in an application
> requires a determination of
> whether that disclosure, when
> filed, contained sufficient
> information regarding the subject
> matter of the claims as to enable
> one skilled in the pertinent art
> to make and use the claimed
> invention.
>
> .
> .
> .
>
> A patent need not teach, and
> preferably omits, what is well
> known in the art.
>
> .   .
> .
> .
>
> The test of enablement is not
> whether any experimentation is
> necessary, but whether, if
> experimentation is necessary, it
> is undue.

(MPEP 2164.01)   In this instance, the disclosure, when
filed, contained sufficient information regarding the
subject matter of the claims as to enable one skilled in
the pertinent art to make and use the claimed invention.
With regard to "controlling the serving of an
advertisement to the user using the determined user
profile information," the specification states that, "the
present invention concerns *determining particularly
relevant advertisements or advertisement creatives to*

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serve for a user request, such as a search query or
document request for example. [Emphasis added.]' (Page
1, lines 6-10) The specification further states, "The
present invention may involve novel methods, apparatus,
message formats and/or data structures for determining
user profile information and *using such determined user
profile information for ad serving.* [Emphasis added.]"
(Page 7, lines 8-10) The specification further states:

> The ad serving operations 230
> may service requests for ads from ad
> consumers 130. The ad serving
> operations 230 may use relevancy
> determination operations 235 to
> determine candidate ads for a given
> request. The ad serving operations
> 230 may then use optimization
> operations 240 to select a final set
> of one or more of the candidate ads.
> The ad serving operations 230 may
> then use relative presentation
> attribute assignment operations 250
> to order the presentation of the ads
> to be returned.
>
> .
> .
> .
>
> Various aspects of the present
> invention may be used with relevancy
> determination operations 235,
> relative presentation attribute
> ordering operations 250, and/or ad
> serving operations 230.

(Page 12, lines 1-21) Finally, the specification states:

§ 4.2.2.1 AD SCORING USING UPI

> It may be desirable to place an
> ad on a hosting site or page where

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ad's targeted UPI (and/or the UPI of
the ad's landing page) matches the
document UPI (e.g., the average UPI
of users that have requested the
document) and/or *to serve the ad to a
user whose UPI matches the target UPI
of the ad (and/or the UPI of the ad's
landing page).*

*With enhanced ad targeting using
UPI, a score for each of a plurality
of ads may be determined using at
least some of the UPI of the user,
the UPI of a document, the UPI of an
ad landing page, and/or ad targeting
UPI. At least one ad may be rank
ordered, filtered, and/or selected
from the plurality of ads using at
least the determined scores.*

For example, an ad score may be
a function of a UPI match value.
Referring to Figure 5, such a UPI
match value may be a function of one
or more of: (i) a match value of UPI
information 514 associated with a
user (or user group) 512 and UPI
information 524 associated with a
document (e.g., a Web page) requested
(or visited) by the user 512 (Match
Value 1); (ii) a match value of UPI
information 514 associated with a
user (or user group) 512 and UPI
information 534 associated with a
landing page 532 of an ad under
consideration (Match Value 2); (iii)
a match value of UPI information 524
associated with a document 522
requested (or visited) by a user and
UPI information 534 associated with a
landing page 532 of an ad under
consideration (Match Value 3); (iv) a
match value of UPI information 514
associated with a user (or user
group) 512 and UPI ad targeting
information 544 associated with an ad
542 under consideration (Match Value
4); and (v) a match value of UPI
information 524 associated with a

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document 522 requested or being
visited by a user and UPI ad
targeting information 544 associated
with an ad 542 under consideration
(Match Value 5).

Thus, in one embodiment of the
present invention, an overall match
may be defined as:

$$UPI\ MATCH = a * MATCH\ VALUE\ 1 + b * MATCH\ VALUE\ 2 + c * MATCH\ VALUE\ 3 + d * MATCH\ VALUE\ 4 + e * MATCH\ VALUE\ 5$$

where a, b, c, d, and e are constants
(e.g., a=0.025, b=0.275, c=0.3, d
=0.2, and e = 0.2). Note that "a"
may be set to zero since a match
between a user UPI and a document UPI
may be independent of how well either
one matches an ad. Other functions,
including polynomial or exponential
functions, may be used instead.

Generally, for a good match, the
user's UPI should match both the
hosting page UPI, and perhaps even
more importantly, match the UPI of
the ad landing page. The match
between two profiles can be computed
using standard Information Retrieval
techniques for matching two term
vectors, such as vector space
matching (See, e.g., the articles:
G. Salton and C. Buckley,
"Term-Weighting Approaches in
Automatic Text Retrieval,"
Information Processing and
Management, 24(5), pp. 513-523
(1988); and Gerard Salton, A. Wong,
C. S. Yang, "A Vector Space Model for
Automatic Indexing," Communications
of the ACM, 18(11), pp. 613-620
(1975).).

Broad attributes such as
geography, topic, user age range,
language, etc. can be computed for
documents and users using, for
example, machine learning

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classifiers. Also, that such broad
attributes can be used jointly with
more narrow attributes, such as words
and phrases, in matching.
  Naturally, the score of an ad
can be a function of other factors in
addition to UPI Match, such as, for
example, its relevancy to a search
query or to content of a document, an
amount an advertiser will pay or is
willing to pay for a given result
(e.g., impression, selection,
conversion, etc.), a measure of the
ad's performance (e.g., click-through
rate, conversion rate, user rating,
etc.), a measure of the advertiser's
quality, etc. Moreover, **different
intermediate ad scores may be used
for different purposes (e.g.,
relevancy, position, relative
rendering attribute**, etc.) [Emphasis
added.]

(Page 19, line 1 through page 20, line 30)

The foregoing examples illustrate how the serving of
an advertisement might be controlled using determined
user profile information (e.g., for a user or for a
document). Therefore, the applicants respectfully
request that the Examiner withdraw this ground of
rejection for at least this first reason.

Further, even without the express teachings and
guidance provided by the specification, the claimed
"controlling the serving of an advertisement to the user
using the determined user profile information" is enabled
because controlling ad serving using such determined
information would be well understood and predictable. In
this regard, the MPEP states, "The amount of guidance or
direction needed to enable the invention is inversely

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related to . . . the predictability in the art." (MPEP
2164.03) Therefore, the applicants respectfully request
that the Examiner withdraw this ground of rejection for
at least this second reason.

Rejections under 35 U.S.C. § 103

Claims 1, 3, 5-33, 35 and 37-66 stand rejected under
35 U.S.C. § 103 as being unpatentable over U.S. Patent
No. 5,754,939 ("the Herz patent") in view of U.S. Patent
No. 5,724,567 ("the Rose patent"). The applicants
respectfully request that the Examiner reconsider and
withdraw this ground of rejection in view of the
following.

As an initial matter, the applicants would like to
take issue with the two aspects of the Examiner's
rejection. First, the Examiner's Response to Arguments
in the previous Office Action indicates that his
rejections relies on Merriam Webster's dictionary to
interpret the claim terms "topology", "graph" and "node".
(See Paper No. 20080413, pages 3-5.) The applicants
respectfully note that the MPEP provides that the scope
of claims in patent applications is determined not solely
on the basis of the claim language, but upon giving
claims their broadest reasonable construction "in light
of the specification as it would be interpreted by one of
ordinary skill in the art." (MPEP 2111) More
importantly, in Phillips v. AWH Corp., 75 U.S.P.Q.2d 1321
(Fed. Cir. July 12, 2005) (en banc) ("Phillips v. AWH"),
the Court of Appeals for the Federal Circuit ("the CAFC")
explained that extrinsic evidence such as evidence from

dictionaries for example, is less significant than intrinsic evidence in determining the meaning of claim language. See, e.g., Id., at 1330. The CAFC explained:

> there may be a disconnect between the
> patentee's responsibility to describe
> and claim his invention, and the
> dictionary editor's objective of
> aggregating all possible definitions
> for particular words.

Id. at 1332-1333. The CAFC further clarified that this problem is not limited to general dictionaries, but can also occur in technical dictionaries and treatises because:

> the authors of dictionaries or
> treatises may simplify ideas to
> communicate them most effectively to
> the public and may thus choose a
> meaning that is not pertinent to the
> understanding of particular claim
> language.

Id., at 1333.

Since the specification can be used to clearly discern the meaning of the claim terms as would be understood by those of ordinary skill in the art the applicants see no need to use the Merriam Webster's dictionary to interpret the claim terms "topology", "graph" and "node".

Second, the Examiner *picks, chooses and combines various disclosures of the Herz patent not directly related to each other* as teaching various aspects of the claimed invention. (See Paper No. 20090330, pages 4-7.) However, the Examiner has <u>not</u> established that the

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various cited elements in the Herz patent are **arranged as
in the claims**.

1. Claims 1, 3, 5, 6, 33, 35, 37 and 38

Independent claims 1 and 33 are not rendered obvious
by the Herz and Rose patents because these patents,
either taken alone or in combination, neither teach, nor
suggest, an act of **determining initial user profile
information for the user using information included in
past search queries submitted to a search engine by the
user, wherein such information is independent of
documents returned as search results to the past search
queries**. Further, one skilled in the art would not have
combined these references as proposed by the Examiner.

As discussed in previous responses, the
specification of the present application provides an
illustrative example of how initial user profile
information for a user can be determined using past
search queries submitted by the user. Specifically, the
specification states:

> There are many alternative ways to
> obtain user information. For example,
> a score 440 for an attribute 420 and
> value 430 can be determined with a
> machine learning classifier which
> predicts values 430 of the UPI
> attributes 420 in the profile using
> words in queries deployed previously.
> For example, given the keywords related
> to "women's health" in previous search
> queries, the classifier may infer that
> the user is a woman with probability
> 0.8. Further, given that Japanese
> words were used in previous search

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          queries, the classifier may infer that
          the user is Japanese with probability
          0.9, etc.

(Page 24, lines 7-14)

    The Examiner alleges that column 4, lines 53-61 of
the Herz patent teaches this feature. (See Paper No.
20090330, pages 4 and 5.) As used in the Herz patent, a
"search profile" or a "query profile" is a collection of
attributes such that a user should like target objects
with a target profile with a similar set of attributes.
The "search profile" for a user may be determined using
target profiles of articles that the user has accessed
and the relevance feedback that the user has provided.
The relevance feedback (or "passive feedback") may be a
function of how much of (in terms of content or time) an
article the user viewed, attributes of an email reply,
attributes of a purchase, etc. Thus, the Herz patent
uses relevance feedback (or passive feedback) to
determine what types of objects (e.g., articles) a user
likes, which, in turn, is used to help filter user
searches. Defining a collection of attributes that a
user likes target objects to have (e.g., short and long
pieces of text) based on past behavior of the user does
not teach **past search queries submitted to a search
engine by the user.**

    The Examiner also alleges that the Herz patent can
relate a user with past search words, such as past
interest in films whose review text (attribute h)
contains words like "chase," "explosion," "explosions,"
"hero," "gripping," and "superb," citing column 10, lines
37-42. (See Paper No. 20090330, page 6.) However,
attributes of movie reviews that a user has been

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interested in neither teach, nor suggest, *past search queries submitted to a search engine by the user.*

The Examiner apparently does not rely on the Rose patent to compensate for this deficiency of the Herz patent. Thus, independent claims 1 and 33 are not rendered obvious by the Herz and Rose patents for at least the foregoing reason. Since claims 3, 5 and 6 directly or indirectly depend from claim 1 and since claims 35, 37 and 38 directly or indirectly depend from claim 33, these claims are similarly not rendered obvious by the Herz and Rose patents.

2. *Claims 7, 13, 39 and 45*

Claims 7 and 39 are not rendered obvious by the Herz and Rose patents because these patents, either taken alone or in combination, neither teach, nor suggest, acts of inferring user profile information for the user by (i) defining a node for each of a number of documents and the user, (ii) adding edges between nodes if there is an association between the nodes to define a graph, and (iii) *inferring user profile information for the user using a topology of the graph and user profile information of other documents.*

The Examiner refers to Figures 1 and 2 of the Herz patent, and contends that the nodes (computers) and links (communications links) teach these features. (See Paper No. 20090330, pages 5 and 6.) The Examiner further argues that in the Herz patent, the information servers contain the target documents, citing column 26, line 37, and column 29, lines 1-5. (See Paper No. 20090330, page 6.) However, Figures 1 and 2 of the Herz patent show

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nodes and links in the context of computers that can communicate with one another over a communications network. These nodes and links are <u>in no way</u> related to nodes and edges of a **graph, the topology of which is used to infer user profile information**.

The Examiner then argues that the system can link users to documents based on the users' interests in the documents or other documents associated with each link, citing column 60, lines 62-64. (See Paper No. 20090330, page 6.) This section merely concerns ranking links in a hypertext document, which are <u>in no way</u> related to nodes and edges of a graph, the topology of which can be used to infer user profile information.

The Examiner further argues that since the system can determine relationships between users and documents, "one skilled in the art **could** easily infer from these relationships to **create graphs**, [Emphasis added.]" citing column 10, lines 46-53. (Paper No. 20090330, page 6) The applicants respectfully disagree. First, the cited portion of the Herz patent merely discusses that a user might like movies similar to those the user has liked in the past, or might like movies liked by similar users. This has nothing to do with **inferring user profile information for the user using a topology of the graph and user profile information of other documents** as claimed. More importantly, the fact that a system "**could be**" modified is not the proper standard for showing obviousness under 35 U.S.C. § 103. The fact that graph theory defines objects with "nodes" and connections with "edges" neither teaches, nor suggests, (i) defining a node for each of a number of documents and the user, wherein each node represents a particular one of the

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number of documents or the user, (ii) adding edges between nodes if there is an association between the nodes to define a graph, and (iii) *inferring user profile information for the user using a topology of the graph and user profile information of other documents.*

The nodes and links in the Herz patent are described in a totally different context than recited in independent claims 7 and 39. When interpreting the terms "nodes" and "edges", the Examiner improperly ignores the specification as it would be interpreted by one of ordinary skill in the art. (Recall <u>Phillips v. AWH Corp.</u>, discussed above.) In the instant application, the specification discusses "nodes" in terms of representing users and documents on a graph and "edges" between the user node and document nodes for the top Web pages that were returned by a search engine in response to search queries that the user submitted, and perhaps between pairs of documents that have links (e.g., hyperlinks) between them. Specifically, with reference to Figures 10 and 11, the specification states:

> In one exemplary embodiment of the present invention, the association information 1070 may be *a graph in which users and documents are represented as nodes* 1072 and 1076, respectively. Figure 11 is a flow diagram of an exemplary method 1100 that may be used to associate users and/or documents in a manner consistent with the present invention. As shown, *nodes may be defined for each user and document.* (Block 1110) For each of the user nodes 1072, *edges* 1074 (which indicate an association) *may be drawn between the user node and document nodes for the top Web pages that were returned by a search engine in response*

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> *to search queries that the user
> submitted.* (In a variant, *the edges*
> 1074 *could be drawn only to Web pages
> that the user selected* (e.g., clicked
> on)). Additionally, *edges* 1078 *may be
> drawn between pairs of documents that
> have links (e.g., hyperlinks) between
> them.* (Block 1120) Although not
> shown, user-to-user associations may
> also be generated. For example, edges
> may be added between users that have
> visited one or more of the same
> documents. [Emphasis added.]

Page 25, lines 4-18. Thus, using the specification, one
of ordinary skill in the art at the time of the invention
would interpret "nodes" and "edges" as representations of
users and documents, and relationships between users and
documents, on a graph.

In the Response to Arguments of the previous Office
Action, the Examiner responds:

> **Response 3:** With regard to the
> aspect of defining a node for each of
> a number of documents and the user,
> looking into applicant's
> specification, it is not clear how
> the work [The applicants believe
> "word" was intended.] *node* is being
> defined. For example, in paragraph
> 56 of the published specification,
> applicant used nodes alternatively
> with access points ("one or more
> areas served by common cable head end
> stations, one or more areas served by
> common network access points or
> nodes, etc."). In paragraph 103,
> nodes seems to be used to describe a
> point in a flow diagram ("..Acts 620
> and 630 may be performed one or more
> times before the method 600 is left.
> (Node 640)")(See item 640 in Fig. 6
> and item 740 in Fig. 7). In
> paragraph 111, "the association

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> information 1070 may be a graph in
> which users and documents are
> represented as nodes 1072 and 1076,
> respectively.

(Paper No. 20080413, pages 4 and 5.) At the risk of
being blunt, the applicants respectfully submit that one
skilled in the art would not be confused by this
fabricated uncertainty about the term "node", but rather
would clearly understand how this term should be
interpreted in view of the claims. For example,
independent claim 7 recites, in pertinent part:

> i) ***defining a node for each of a
> number of documents and the user,
> wherein each node represents a
> particular one of the number of
> documents or the user*** [This is
> supported, for example, by Figure
> 10, 1110 of Figure 11, and page
> 24, line 27 through page 25, line
> 25.], [and]
> ii) ***adding edges between nodes*** if
> there is an association between
> the nodes to define a graph,
> wherein there is an association
> between at least two of the nodes
> [This is supported, for example,
> by Figure 10, 1120 of Figure 11,
> and page 23, line 27 through page
> 25, line 25.] … [Emphasis added.]

Regardless of the Examiner's alleged confusion as to the
meaning of "node", one skilled in the art would not be
confused about the fact that the term "node" is not being
used as meaning a network "access point" or the RETURN
node in a flow chart!

Furthermore, the Examiner argues that acts that are
conditionally performed are not given weight since they

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need not be performed if the condition is not met. (See, e.g., Paper No. 20090330, pages 6 and 7.) As the applicants previously noted to the Examiner, claims 7-12 and 39-44 (claims 8-12 and 40-44 are separately argued later) had been amended to recite that the condition is met (in which case the conditional act is performed). Therefore, the Examiner should have given such elements of these claims patentable weight.

Moreover, although the Examiner apparently argues, on the one hand, that the information servers of the Herz patent contain documents to which the user can be linked, and that one could infer a graph from purported relationships between users and other users or users and documents, the Examiner later concedes that the Herz patent does not describe a node that represents a document or users. (See Paper No. 20090330, page 7.) In an attempt to compensate for this admitted deficiency of the Herz patent, the Examiner relies on the Rose patent. In particular, the Examiner contends that the Rose patent teaches various concepts concerning users and documents. (See Paper No. 20090330, pages 7 and 8.) However, the applicants respectfully note that the cited portions of the Rose patent concern the notions of "term frequency" and "inverse document frequency" (TF/IDF), state that users and documents can be represented with a term vector, state that a user's profile vector may be updated, and state that similarities between term vectors can be determined using a cosine distance. (See column 6, lines 9-17, 28-35 and 55-60 of the Rose patent, cited by the Examiner.) The applicants frankly do not see how the cited sections of the Rose patent compensate for the conceded deficiency of the Herz patent. That is, the

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applicants cannot see how the cited portions of the Rose
patent discussed above, which concern term vectors, teach
a node (of a graph) representing documents or users. The
applicants note that Figures 5A and 5B of the Rose patent
(cited by the Examiner) merely illustrate the notion of
cosine distance between feature vectors. They do not
teach, nor do they suggest, a graph including nodes, some
of which are connected.

The Examiner also notes that "the table in figure 6
of Rose shows on the Y axis the different documents and
the X axis the different users associated with these
documents," and concludes, "Therefore, once these
relationships are established it would have been obvious
for one skilled [in the] art at the time of applicant's
invention to draw lines or edges between the documents
that are associated with particular users." (Paper No.
20090330, page 8.) The applicants respectfully disagree,
and respectfully note that even if the Rose patent were
modified as proposed by the Examiner, such a modification
would still neither teach, nor make obvious, inferring
user profile information for the user using a topology of
the graph and user profile information *of other documents*
as claimed. More specifically, referring to the table of
Figure 6, the Rose patent states:

> Using the information in this table,
> a correlation matrix R can be
> generated, whose entries *indicate the*
> *degree of correlation between the*
> *various users' interests* in commonly
> retrieved messages. More precisely,
> element Rij contains a measure of
> *correlation between the i-th user and*
> *the j-th user*. One example of such a
> matrix is the correlation matrix

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illustrated at 44 in FIG. 6.
[Emphasis added.]

(Column 6, line 67 through column 7, line 6 of the Rose
patent.) Again, determining a degree of correlation
between various users, neither teaches, nor makes
obvious, inferring user profile information for the user
using a topology of the graph and user profile
information **of other documents** as claimed. In the
Response to Arguments section of the previous Office
Action, the Examiner also alleges that column 79, lines
8-10 of the Herz patent teaches this feature. (See Paper
No. 20080413, page 5.) The applicants assume that the
Examiner provided an erroneous citation since the cited
portion of the Herz patent merely states "automatically
generating at least one user target profile interest
summary for a user at a user terminal, each of said user
target profile interest summary being indicative of ones
of said target objects and sets of target object
characteristics accessed by said user" as an element of
claim 1, which has nothing to do with the claimed feature
discussed above.

Finally, the Examiner concludes, without any
substantiation, that it would have been obvious for one
skilled in the art at the time of the invention to have a
system that has "graphical representation of users and/or
document[s]. The motivation for one skilled to use graph
would be to establish relationships between the user
and/or document." (Paper No. 20090330, page 9.)
Frankly, the Examiner has not shown any support in the
Herz and Rose patents to support this assertion, nor has

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the Examiner proffered any obvious reason to mocify these patents as he proposes.

Thus, independent claims 7 and 39 are not rendered obvious by the Herz and Rose patents for at least the foregoing reasons. Since claims 13 and 45 depend from claims 7 and 39, respectively, these claims are similarly not rendered obvious by the Herz and Rose patents.

3. Claims 8 and 40

First, since claims 8 and 40 depend from claims 7 and 39, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (2) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes **if a document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node**, and that (wherein) **at least one document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node.** Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagrees since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

4. Claims 9 and 41

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First, since claims 9 and 41 depend from claims 7 and 39, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (2) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node was selected by the user corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node was selected by the user corresponding to the second node*. Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 2009033C, page 7.) The applicants respectfully disagree since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

5. Claims 10 and 42

First, since claims 10 and 42 depend from claims 7 and 39, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (2) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node is linked with a document corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node is*

linked with at least one document corresponding to the second node. Although the Examiner does not exp:essly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 2009033), page 7.) The applicants respectfully disagree since :he second wherein clauses of these claims recite th:t the condition does in fact occur. Thus, these claim3 are not rendered obvious by the Herz and Rose patents fo: at least this additional reason.

6. *Claims 11 and 43*

First, since claims 11 and 43 depend from claims 7 and 39, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (2) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node was visited by ɛ set of users that have visited another document corresponding to the second node,* and that (wherein) *at least one document corresponding to the first node was visited by ɛ set of users that have visited at least one other document corresponding to the second node.* Although the Examiner does not expressly address these claims, he doe⁣ seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (Sɛe Paper No. 20090330, page 7.) The applicants respectfu.lly disagree since the second wherein clauses of the se claims recite that the condition does in fact occur. :'hus,

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these claims are not rendered obvious by the Herz and
Rose patents for at least this additional reason.

7. Claims 12 and 44

First, since claims 12 and 44 depend from claims 7
and 39, respectively, these claims are not rendered
obvious by the Herz and Rose patents for at least the
reasons discussed in part (2) above.

Second, these claims further recite that (wherein)
an edge is added (or act of adding an edge adds an edge)
between first and second nodes *if a user corresponding to
the first node visited a set of one or more documents
also visited by another user corresponding to the second
node*, and that (wherein) *the user corresponding to the
first node visited a set of one or more documents also
visited by the other user corresponding to the second
node.* Although the Examiner does not expressly address
these claims, he does seem to argue that this type of
"limitation does not have to happen, and can be
interpreted as such[.]" (See Paper No. 20090330, page
7.) The applicants respectfully disagree since the
second wherein clauses of these claims recite that the
condition does in fact occur. Thus, these claims are not
rendered obvious by the Herz and Rose patents for at
least this additional reason.

8. Claims 14-19 and 46-51

Independent claims 14 and 46 are not rendered
obvious by the Herz and Rose patents because these
patents do not teach acts of *determining user profile
information for a document* using both initial user
profile information and inferred user profile

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information, *associating with the document, the determined user profile information for the document*, and storing the association of the document with the determined user profile information for the document. As indicated by Figure 5 of the present application, user profile information 524 may be associated with a document 522 (and other user profile information 514, 534 and 544 may be associated with other things 512, 532 and 542).

The Examiner cites column 10, lines 43-46 of the Herz patent as teaching recording associations between documents (movies) and users. (See Paper No. 20090330, page 6.) Although movies can have attributes including a "list of customers who have previously rented this movie" (See, e.g., column 10, lines 22 and 23.), such a list is not "user profile information for a document", which is associated with the document, and which association is stored, as recited in claims 14 and 46.

Thus, independent claims 14 and 46 are not rendered obvious by the Herz and Rose patents for at least the foregoing reason. Since claims 15-26 and 65 directly or indirectly depend from claim 14 and since claims 47-58 and 66 directly or indirectly depend from claim 46, these claims are similarly not rendered obvious by the Herz and Rose patents.

Furthermore, the Examiner argues that acts that are conditionally performed are not given weight since they need not be performed if the condition is not met. (See, e.g., Paper No. 20090330, pages 6 and 7.) The applicants note that claims 20-25 and 52-57 (which are separately argued later) have been amended to recite that the condition is met (in which case the conditional act is

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performed). Therefore, the Examiner must give such elements of these claims patentable weight.

9. Claims 20 and 52

First, since claims 20 and 52 depend from claims 14 and 46, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (8) above.

Second, these claims further recite that the act of inferring user profile information for the document includes (i) defining a node for each of a number of documents and for each of a number of users, wherein each node represents a particular one of the number of documents or a particular one of the number of users, (ii) adding edges between nodes if there is an association between the nodes to define a graph, wherein there is an association between at least two of the nodes, and (iii) inferring user profile information for the document using a topology of the graph and user profile information of users and of other documents. As discussed in part (2) above, the Herz and Rose patents do not teach or make obvious *inferring user profile information for a* __user__ in this way. The Herz and Rose patents similarly do not teach or make obvious *inferring user profile information for a* __document__ in this way. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

10. Claims 21 and 53

First, since claims 21 and 53 depend from claims 20 and 52, respectively, these claims are not rendered

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obvious by the Herz and Rose patents for at least the reasons discussed in part (9) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node*. Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagree since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

11. *Claims 22 and 54*

First, since claims 22 and 54 depend from claims 20 and 52, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (9) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node was selected by the user corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node was selected by the user corresponding to the second node*.

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Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagree since he second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

12. *Claims 23 and 55*

First, since claims 23 and 55 depend from claims 20 and 52, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (9) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node is linked with a document corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node is linked with at least one document corresponding to the second node*. Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagree since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

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13. Claims 24 and 56

First, since claims 24 and 56 depend from claims 20 and 52, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in part (9) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a document corresponding to the first node was visited by a set of users that have visited another document corresponding to the second node*, and that (wherein) *at least one document corresponding to the first node was visited by a set of users that have visited at least one other document corresponding to the second node.* Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagree since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

14. Claims 25 and 57

First, since claims 25 and 57 depend from claims 20 and 52, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in group (9) above.

Second, these claims further recite that (wherein) an edge is added (or act of adding an edge adds an edge) between first and second nodes *if a user corresponding to the first node visited a set of one or more documents*

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also visited by another user corresponding to the second node, and that (wherein) *the user corresponding to the first node visited a set of one or more documents also visited by the other user corresponding to the second node*. Although the Examiner does not expressly address these claims, he does seem to argue that this type of "limitation does not have to happen, and can be interpreted as such[.]" (See Paper No. 20090330, page 7.) The applicants respectfully disagree since the second wherein clauses of these claims recite that the condition does in fact occur. Thus, these claims are not rendered obvious by the Herz and Rose patents for at least this additional reason.

15. Claims 65 and 66

First, since claims 65 and 66 depend from claims 14 and 46, respectively, these claims are not rendered obvious by the Herz and Rose patents for at least the reasons discussed in group (8) above.

Second, these claims further recite that the determined user profile information is associated with the document, not with a user. This feature, which was apparently not specifically addressed by the Examiner, further distinguishes these claims over the Herz and Rose patents.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the
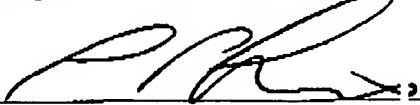
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applicants request that the Examiner pass this application to issue.

Any arguments made in this amendment pertain *only* to the specific aspects of the invention *claimed.* Any claim amendments or cancellations, and any arguments, are made *without prejudice to, or disclaimer of,* the applicant's right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Since the applicants' remarks, amendments, and/or filings with respect to the Examiner's objections and/or rejections are sufficient to overcome these objections and/or rejections, the applicants' silence as to assertions by the Examiner in the Office Action and/or to certain facts or conclusions that may be implied by objections and/or rejections in the Office Action (such as, for example, whether a reference constitutes prior art, whether references have been properly combined or modified, whether dependent claims are separately patentable, etc.) is not a concession by the applicants that such assertions and/or implications are accurate, and that all requirements for an objection and/or a rejection have been met. Thus, the applicants reserve the right to analyze and dispute any such assertions and implications in the future.

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Respectfully submitted,

July 1, 2009

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patent Office on the date shown below.

Leonard P. Linardakis
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Signature   July 1, 2009
                                                 Date

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